AMENDMENTS TO THE CLAIMS

The LISTING OF CLAIMS will replace all prior versions, and listings, of claims in the present application.

LISTING OF CLAIMS

1. (Currently Amended) A method for controlling congestion in a networking device having a plurality of input interface queues, said method comprising ~~the steps of~~:

estimating the data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~; and

determining, for each polling round, ~~using the estimated data arrival rate on each said input interface queue to determine~~ the sequence in which the plurality of ~~said~~ input interface queues should be polled and the quantity of data to be processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ each time the ~~each said~~ input interface queue is polled, using the estimated data arrival rate on each of the plurality of input interface queues.

2. (Currently Amended) The method according to claim 1, wherein the ~~said~~ data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated based on the static link capacity of the ~~each said~~ input interface queue.

3. (Currently Amended) The method according to claim 1, wherein the ~~said~~ data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated based on a dynamically updated measurement.

4. (Currently Amended) The method according to claim 1, wherein the ~~said~~ data arrival rate on each of the plurality of ~~said~~ input interface queue is estimated using an exponential averaging function based on a constant factor and on the difference in arrival times between a current data packet and a previous data packet into the ~~said~~ input interface queue.

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5. (Currently Amended) The method according to claim 1, wherein the ~~said~~ data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated using an exponential averaging function based on the difference in arrival times between a current data packet and a previous data packet into the ~~said~~ input interface queue.

6. (Original) The method according to claim 1, wherein said networking device is a router.

7. (Original) The method according to claim 2, wherein said networking device is a router.

8. (Original) The method according to claim 3, wherein said networking device is a router.

9. (Original) The method according to claim 4, wherein said networking device is a router.

10. (Original) The method according to claim 5, wherein said networking device is a router.

11. (Currently Amended) An apparatus for controlling congestion in a networking device having a plurality of input interface queues, said apparatus comprising:

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means for estimating the data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~; and

means for determining, for each polling round, ~~using the estimated data arrival rate on each said input interface queue to determine~~ the sequence in which the plurality of ~~said~~ input interface queues should be polled and the quantity of data to be processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ each time the ~~each said~~ input interface queue is polled, using the estimated data arrival rate on each of the plurality of input interface queues.

12. (Currently Amended) The apparatus according to claim 11, wherein the ~~said~~ data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated based on the static link capacity of each ~~said~~ input interface queue.

13. (Currently Amended) The apparatus according to claim 11, wherein said data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated based on a dynamically updated measurement.

14. (Currently Amended) The apparatus according to claim 11, wherein said data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated using an exponential averaging function based on a constant factor and on the difference in arrival times between a current data packet and a previous data packet into the ~~said~~ input interface queue.

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15. (Currently Amended) The apparatus according to claim 11, wherein said data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated using an exponential averaging function based on the difference in arrival times between a current data packet and a previous data packet into the ~~said~~ input interface queue.

16. (Original) The apparatus according to claim 11, wherein said networking device is a router.

17. (Original) The apparatus according to claim 12, wherein said networking device is a router.

18. (Original) The apparatus according to claim 13, wherein said networking device is a router.

19. (Original) The apparatus according to claim 14, wherein said networking device is a router.

20. (Original) The apparatus according to claim 15, wherein said networking device is a router.

21. (Currently Amended) An apparatus for controlling congestion in a networking device having a

plurality of input interface queues, comprising:

an ~~input interface queue data~~ arrival rate estimator adapted to estimate a data arrival rate on each of the plurality of input interface queues; and

scheduling logic coupled to an ~~for using the~~ output of said ~~input interface queue data~~ arrival rate estimator, said scheduling logic being adapted to determine, for each polling round, the sequence in which the input interface queues should be polled and the quantity of data to be processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ each time the ~~each said~~ input interface queue is polled.

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22. (Currently Amended) The apparatus according to claim 21, wherein the ~~said~~ data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated based on the static link capacity of the ~~each said~~ input interface queue.

23. (Currently Amended) The apparatus according to claim 21, wherein said data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated based on a dynamically updated measurement.

24. (Currently Amended) The apparatus according to claim 21, wherein said data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated using an exponential averaging function based on a constant factor and on the difference in arrival times between a current data packet and a previous data packet into the ~~said~~ input interface queue.

25. (Currently Amended) The apparatus according to claim 21, wherein said data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~ is estimated using an exponential averaging function based on the difference in arrival times between a current data packet and a previous data packet into the ~~said~~ input interface queue.

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26. (Original) The apparatus according to claim 21, wherein said networking device is a router.

27. (Original) The apparatus according to claim 22, wherein said networking device is a router.

28. (Original) The apparatus according to claim 23, wherein said networking device is a router.

29. (Original) The apparatus according to claim 24, wherein said networking device is a router.

30. (Original) The apparatus according to claim 25, wherein said networking device is a router.

31. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for controlling congestion in an networking device having a plurality of input interface queues, the method comprising:

estimating the data arrival rate on each of the plurality of ~~said~~ input interface queues ~~queue~~; and

determining, for each polling round, ~~using the estimated data arrival rate on each said input interface queue to determine~~ the sequence in which the plurality of ~~said~~ input interface queues should be polled and the quantity of data to be processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ each time the ~~each said~~ input interface queue is polled, using the estimated data arrival rate on each of the plurality of input interface queues.

32. (Currently Amended) The method according to claim 1, wherein said ~~step of~~ estimating the data arrival rate ~~on each said input interface queue~~ is performed sequentially with respect to said determining ~~step of using the estimated data arrival rate on each said input interface queue to determine~~ the sequence ~~in which said input interface queues should be polled~~ and the quantity ~~of data to be processed from each said input interface queue each time each said input interface queue is polled~~.

33. (Currently Amended) The method according to claim 1, wherein said ~~step of~~ estimating the data arrival rate ~~on each said input interface queue~~ is performed independently with respect to said determining ~~step of using the estimated data arrival rate on each said input interface queue to determine~~ the sequence ~~in which said input interface queues should be polled~~ and the quantity ~~of data to be processed from each said input interface queue each time each said input interface queue is polled~~.

34. (Currently Amended) The apparatus according to claim 11, wherein said means for estimating the data arrival rate ~~on each said input interface queue~~ operates sequentially with respect to said means for determining ~~using the estimated data arrival rate on each said input interface queue to determine~~ the sequence ~~in which the input interface queues should be polled~~ and the quantity ~~of data to be processed from each said input interface queue each time each said ut interface queue is polled~~.

35. (Currently Amended) The apparatus according to claim 11, wherein said means for estimating the data arrival rate ~~on each said input interface queue~~ operates independently with respect to said means for determining ~~using the estimated data arrival rate on each said input interface queue to determine~~ the sequence ~~in which the input interface queues should be polled~~ and the quantity ~~of data to be processed from each said input interface queue each time each said ut interface queue is polled~~.

36. (Currently Amended) The apparatus according to claim 21, wherein said ~~input interface queue data~~ arrival rate estimator operates sequentially with respect to said scheduling logic.

37. (Currently Amended) The apparatus according to claim 21, wherein said ~~input interface queue data~~ arrival rate estimator operates independently with respect to said scheduling logic.

38. (Currently Amended) The method according to claim 1, wherein the rate at which data are processed from each ~~said~~ input interface queue is proportional to the data arrival rate on each ~~said~~ input interface queue.

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39. (Currently Amended) The method according to claim 32, wherein the rate at which data are processed from each ~~said~~ input interface queue is proportional to the data arrival rate on each ~~said~~ input interface queue.

40. (Currently Amended) The method according to claim 33, wherein the rate at which data are processed from each ~~said~~ input interface queue is proportional to the data arrival rate on each ~~said~~ input interface queue.

41. (Currently Amended) The apparatus according to claim 11, wherein the rate at which data are processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ is proportional to the data arrival rate on the ~~each said~~ input interface queue.

42. (Currently Amended) The apparatus according to claim 34, wherein the rate at which data are processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ is proportional to the data arrival rate on the ~~each said~~ input interface queue.

43. (Currently Amended) The apparatus according to claim 35, wherein the rate at which data are processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ is proportional to the data arrival rate on the ~~each said~~ input interface queue.

44. (Currently Amended) The apparatus according to claim 21, wherein the rate at which data are processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ is proportional to the data arrival rate on the ~~each said~~ input interface queue.

45. (Currently Amended) The apparatus according to claim 36, wherein the rate at which data are processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ is proportional to the data arrival rate on the ~~each said~~ input interface queue.

46. (Currently Amended) The apparatus according to claim 37, wherein the rate at which data are processed from each of the plurality of ~~said~~ input interface queues ~~queue~~ is proportional to the data arrival rate on the ~~each said~~ input interface.

47. (New) The program storage device according to claim 31, wherein the data arrival rate on each of the plurality of input interface queues is estimated based on the static link capacity of the input interface queue.

48. (New) The program storage device according to claim 31, wherein the data arrival rate on each of the plurality of input interface queues is estimated based on a dynamically updated measurement.

49. (New) The program storage device according to claim 1, wherein the data arrival rate on each of the plurality of input interface queue is estimated using an exponential averaging function based on a constant factor and on the difference in arrival times between a current data packet and a previous data packet into the input interface queue.

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50. (New) The program storage device according to claim 31, wherein the data arrival rate on each of the plurality of input interface queues is estimated using an exponential averaging function based on the difference in arrival times between a current data packet and a previous data packet into the input interface queue.

51. (Original) The program storage device according to claim 31, wherein said networking device is a router.

52. (New) The program storage device according to claim 31, wherein said estimating the data arrival rate is performed sequentially with respect to said determining the sequence and the quantity.

53. (New) The program storage device according to claim 31, wherein said estimating the data arrival rate is performed independently with respect to said determining the sequence and the quantity.

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54. (New) The program storage device according to claim 31, wherein the rate at which data are processed from each input interface queue is proportional to the data arrival rate on each input interface queue.